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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/564,140	01/10/2006	Paul Mark Paterson	7280-0001WOUS	6113

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MCCORMICK, PAULDING & HUBER LLP
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EXAMINER

OLSON, LARS A

ART UNIT	PAPER NUMBER
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3617

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/22/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/564,140

Applicant(s)

PATERSON ET AL.

Examiner

Lars A. Olson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-17, 19, 21 and 22 is/are rejected.
- 7) ☒ Claim(s) 18 and 20 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 January 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>01102006</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

1. A preliminary amendment was received from the applicant on January 10, 2006.

Claim Objections

2. Claim 2 is objected to because of the following informalities: Claim 2 does not end with a period, and is thus considered to be incomplete. Appropriate correction is required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-12, 14, 15, 17, 19, 21 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brown (US 5,480,330) in view of Blanchard (US 6,273,768).

Brown discloses a marine propulsion water pump, as shown in Figure 1, that is comprised of an upstream impeller, defined as Part #61, a downstream impeller, defined as Part #81, a pump housing, defined as Part #43, a water inlet, defined as Part #21, and a water outlet, defined as Part #33, where said impellers are mounted on coaxial shafts, defined as Parts #123 and 133, located within said pump housing, said impellers are spaced apart and rotatable in opposite directions, as described in lines

49-57 of column 3, said impellers are further comprised of a plurality of impeller blades, defined as Parts #65 and 85, and said upstream impeller has blades that are opposite in pitch to those of said downstream impeller, as shown in Figure 1.

Brown, as set forth above, discloses all of the features as claimed except for the use of first and second impellers where one of said impellers is arranged to impart less energy to a flow of water than the other impeller.

Blanchard discloses a water jet propulsion unit, as shown in Figure 2, that includes an upstream impeller, defined as Part #28, and a downstream impeller, defined as Part #42, each having a plurality of axial flow blades that rotate in opposite directions to one another, where one of said impellers can be arranged to rotate at a different speed from the other impeller, as described in lines 13-20 of column 5, in order to impart less energy to a flow of water than the other impeller. Also included is an outlet nozzle, defined as Part #70, that is removable, as shown in Figure 2, and can thus be varied in size in order to vary the cross-sectional diameter of a nozzle outlet, defined as Part #71, as indicated in lines 47-54 of column 5.

The use of an impeller having a specific number of blades arranged in a specific configuration would be considered by one of ordinary skill in the art to be a design choice based upon the desired thrust output of said impeller.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention, to utilize first and second counter-rotating impellers that can be rotated at different speeds, as taught by Blanchard, in combination with the marine propulsion water pump as disclosed by Brown for the purpose of providing a water

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propulsion unit with a means for canceling out the water swirling effects caused by a first impeller with a counter-effect caused by a second impeller turned in the opposite direction.

5. Claims 13 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brown in view of Blanchard, and further in view of Austin (US 3,601,989).

Brown in combination with the teachings of Blanchard shows all of the features claimed except for the use of two impellers that are driven by a single engine by reduction gearing, or first and second impellers that are driven by separate engines.

Austin discloses a marine propulsion system, as shown in Figure 1, with first and second impellers, defined as Parts #26 and 28, that can be either both driven by a first engine, defined as Part #70, by means of reduction gearing, as shown in Figure 1, or separately driven by said first engine and a second engine, defined as Part #50, where said second engine can only drive said first impeller, and said first engine can drive said second impeller.

Therefore, it would have been obvious to one of ordinary skill in the art at time of the invention, to utilize first and second impellers that can either be both driven by a first engine, or separately driven by first and second engines, as taught by Austin, in combination with the marine propulsion water pump as disclosed by Brown and the teachings of Blanchard for the purpose of providing a water propulsion unit with a means for driving first and second impellers at different rotational speeds so that a water swirling effect caused by said first impeller will be countered by an opposite swirling effect caused by said second impeller.

Allowable Subject Matter

6. Claims 18 and 20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Davies et al. (US 5,634,831), Nanami (US 5,618,213), Klepacz et al. (US 3,993,015) and Griffith (US 3,153,907) disclose water propulsion units that utilize first and second coaxial impellers.

8. Any inquiry concerning this communication from the examiner should be directed to Exr. Lars Olson whose telephone number is (571) 272-6685.

lo

March 19, 2007

LARS A. OLSON
PRIMARY EXAMINER

Lars Olson
3/19/07